



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER OF PATENTS AND TRADEMARKS
Washington, D.C. 20231
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/671,670	09/28/2000	Yoji Ito	030662-063	7268

7590 07/26/2002
Platon N Mandros
Burns Doane Swecker & Mathis LLP
P o Box 1404
Alexandria, VA 22313-1404

EXAMINER

NGO, HUYEN LE

ART UNIT	PAPER NUMBER
----------	--------------

2871

DATE MAILED: 07/26/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/671,670

Applicant(s)

ITO, YOJI

Examiner

Julie-Huyen L. Ngo

Art Unit

2871

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) ____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s) ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

Art Unit: 2871

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1 and 4-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Aminaka (US6064457A).

Aminaka discloses a liquid crystal display (figs. 5 and 6) including a liquid crystal cell (10) of Twisted Nematic (col. 21, lines 59-65) comprising:

- Two ellipsoidal polarizing plates arranged on both sides of the LCD cell, each ellipsoidal polarizing plate comprises:

- A first optical anisotropic layer 31
- A second optical anisotropic layer 33
- A polarizing membrane 34
- A transparent protective film (col. 21, lines 22-32)

Wherein the first optical anisotropic layer (Fig. 3 and col. 6, lines 66 to col. 7, lines 23) has angle of 15° to 50° [an inclined angle between the aligned direction of the major axes of the planer molecules (31a to 31e) in the first anisotropic layer and the layer plane parallel to the surface of the second anisotropic layer 33, (col. 7, lines 15-16)]. Aminaka discloses in Figs. 5 and 7 that the second optically anisotropic layer 33A or 33B is an optically positive and uniaxial since the molecules in these layers having the slow axis/direction of

Art Unit: 2871

maximum refractive index is larger than the slow axis/direction of minimum refractive index (col. 4, lines 47-52). Aminaka also teaches an angle of 0° to 5° between the direction giving the maximum refractive index and the second anisotropic layer plane (col. 4 lines 41-47). Note that the ranges for the angles disclosed by Aminaka are within the angle ranges of 5° to 85° and 0° to 5° recited in claims 1 and 10.

Therefore, the angle ranges in claims 1 and 10 would have been obvious in view of the angle ranges disclosed by Aminaka (See In re Malagari, 499 F.2d 197, 182 USPQ 549 (CCPA 1974)).

With respect to claims 4 and 5, Aminaka discloses an ellipsoidal polarizing plate, wherein the second optically anisotropic layer is uniaxially stretched polymer film (col. 20, 56-60), which is made of cellulose ester film (col. 22, lines 42-45).

With respect to claim 6, Aminaka discloses an ellipsoidal polarizing plate, wherein the first and second optically anisotropic layers are so arranged that the projection of the direction of the maximum refractive index (on slow axis) in the first optically anisotropic layer onto the layer plane is essentially perpendicular, on the same plane, to the direction giving maximum refractive index (on slow axis) in the second optically anisotropic layer (col. 23, lines 60-64).

With respect to claim 7, Aminaka discloses an ellipsoidal polarizing plate, wherein the plate comprises the first optically anisotropic layer, the second optically anisotropic layer, the polarizing membrane, and the transparent protective film (membrane) in this order (col. 21, lines 30-32).

Art Unit: 2871

With respect to claims 8 and 9, Aminaka discloses in abstract an ellipsoidal polarizing plate, wherein the second optically anisotropic layer and the polarizing membrane are so arranged that the direction giving the maximum refractive index in the second optically anisotropic layer is essentially perpendicular to the transmission axis of the polarizing membrane (claim 8) or parallel to the transmission axis of the polarizing membrane (claim 9).

Claims 2 and 3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Aminaka (US 6064457) as applied to claim 1 above, and further in view of Kawata (US 6061113) and Japanese Patent Provisional Pub. No. 3(1991)-87720 (incorporated in col. 1, lines 46-58 of US Pat. No. 6061113).

With respect to claim 2, it is well known and conventional in the art to form an anisotropic layer/optical compensation sheet comprising of rod-like liquid crystal for light- weight and low power consumption, as disclosed by Kawata (col. 1, 46-58) and evidenced by Japanese Patent Provisional Pub. No. 3(1991)-87720. Therefore, it would have been obvious for one of ordinary skill in the art at the time the invention was made to form the first optical anisotropic layer in the LCD device of Aminaka of rod-like liquid crystal for the reasons set forth above.

With respect to claim 3, Aminaka discloses (col. 7, lines 11-16) that as the distance between the molecules (31a-31e) and the oriental layer increases along the normal line of the transparent substrate (33), the inclined angles increased. Therefore, one skilled in the art would expect that the inclined angle of each rod-like liquid crystal

Art Unit: 2871

molecule in the first optical anisotropic layer to vary according to the distance between the molecule and the surface of the second optical anisotropic layer.

Response to Arguments

Applicant's arguments filed on June 20, 2002 have been fully considered but they are not persuasive.

Applicant's ONLY arguments are follows:

- Aminaka fails to disclose the second optical anisotropic layer to be optical positive.
- Kawata fails to disclose description to the effect that rod-like liquid crystal can be used in place of discotic liquid crystal. One skilled in the art would not be motivated by the applied art reference to use rod-like liquid crystal in place of discotic liquid crystal because they completely different from each other.

Examiner's responses to Applicants' ONLY arguments are follows:

- Applicant also admits that Amidaka discloses "a transparent substrate preferably is a polymer film made of a transparent polymer of positive inherent birefringence" (remark page 8, lines 19-21). One of skilled in the art would have known that positive birefringence means a positive optical anisotropy or $\Delta n > 0$. See attached Liquid Crystal, Applications and Uses, Vol. 1, page 152.
- It has been held that a prior art reference must either be in the field of applicant's endeavor or, if not, then be reasonably pertinent to the

Art Unit: 2871

particular problem with which the applicant was concerned, in order to be relied upon as a basis for rejection of the claimed invention. See *In re Oetiker*, 977 F.2d 1443, 24 USPQ2d 1443 (Fed. Cir. 1992). In this case, Kawata teaches using a discotic liquid crystal in place of a rod-like liquid crystal compound (col. 2 lines 19-26); that means one can be replaced the other. Therefore, one skilled in the art would be motivated by the applied art reference to use rod-like liquid crystal in place of discotic liquid crystal since they are within the same field of applicant's endeavor.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Art Unit: 2871

Contact Information

Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Julie Ngo, whose telephone number is (703) 305-3508.

Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist, whose telephone number is (703) 308-0956.

Papers related to this application may be submitted to Art Unit 2871 by facsimile transmission. The Examiner direct fax number is (703) 746-4709. Please call before sending any paper.



William L. Sikes
Supervisory Patent Examiner
Art Unit 2871

KENNETH PARKER
PRIMARY EXAMINER